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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,861	11/13/2003	Brian Keyse	FMC1620PUS/202-1446	8643

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EXAMINER

BEHNCKE, CHRISTINE M

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/712,861

Applicant(s)

KEYSE ET AL.

Examiner

Christine M. Behncke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 6, 21, 24-28 is/are rejected.
- 7) ☒ Claim(s) 3, 5, 7-20, 22, 23 and 29-37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11/13/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the Amendment and Remarks filed 5 June 2006, in which claims 1-37 were presented for examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 6 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Malson, US 5,951,615.

3. **(Claim 1)** Malson discloses an adaptive control method for an electronic ratio shift controller for a multiple-ratio transmission comprising gear elements defining plural torque flow paths between a torque input shaft and a torque output shaft (Figure 1B), and pressure-actuated friction elements selectively establishing a power-off downshift in gear ratio as an oncoming friction element and an offgoing friction element are applied and released (column 4, lines 37-49), the downshift having adaptive shift characteristics including pressure boost time as pressure at the oncoming friction element is boosted (Figure 4, stage time) and starting pressure for the oncoming friction element at the beginning of a ratio change is increased (Figures 4-8), the control method comprising the steps of: monitoring measured operating conditions during a current power-off downshift (column 8, lines 14-24); and adjusting the adaptive shift characteristics for a

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subsequent downshift as determined by the measured operating conditions, whereby power-off downshift quality is improved (column 2, lines 38-52).

4. **(Claim 2)** Malson further discloses detecting a start of a ratio change during a pressure boost for a current downshift (Figures 4-6); and reducing the pressure boost time by a value determined by calibration whereby a torque disturbance at the torque output shaft is avoided during a subsequent downshift (column 7, line 59-column 8, line 25).

5. **(Claim 4)** Malson further discloses detecting large torque transfer time error during a current shift and changing pressure boost time to reduce the error during a subsequent shift (column 7, line 59-column 8, line 13).

6. **(Claim 6)** Malson further discloses detecting a small torque transfer time error during a current shift and changing pressure boost time to reduce the error during the subsequent shift (column 7, line 59-column 8, line 13).

7. **(Claim 21)** Malson further discloses detecting a small torque transfer time error and a slip time error during a current shift and reducing boost time and changing oncoming clutch starting pressure based on slip time during a subsequent shift (column 7, line 59-column 8, line 13, column 11, line 58-67).

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 24-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Hubbard, US 6,368,249.

9. **(Claim 24)** Hubbard discloses an adaptive control method for an electronic ratio shift controller for a multiple-ratio transmission, the transmission comprising gear elements defining plural torque flow paths between a torque input shaft and a torque output shaft (column 2, line 57-column 3, line 15), and pressure-actuated friction elements selectively establishing a power-on downshift in gear ratio as an oncoming friction element and an offgoing friction element are applied and released (Abstract), the downshift having an adaptive shift characteristic comprising starting pressure for the offgoing friction element at the beginning of a ratio change (), the control method comprising the steps of: monitoring measured operating conditions during a current power-on downshift (Figure 7, column 5, lines 28-41); and adjusting the adaptive shift characteristic for a subsequent shift as determined by the measured operating conditions, whereby power-on downshift quality is improved (column 2, lines 2-17).

10. **(Claims 25, 26, 27 and 28)** Hubbard further discloses wherein the measured operating conditions include initial slip time (column 8, line 62-column 9, line 9), extrapolated slip time (Figures 8 and 9, column 10, line 5-24), and incipient ramp time (column 6, lines 2-38).

Allowable Subject Matter

11. **Claims 3, 5, 7-20, 22, 23, and 29-37** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine M. Behncke whose telephone number is (571) 272-8103. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMB


THOMAS BLACK
SUPERVISORY PATENT EXAMINER